CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D.C.

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Copy 6 of 17

MEMORANDUM FOR: Director, National Reconnaissance Office

SUBJECT: U-2R Planning and Management Posture

REFERENCE: D/NRO Memorandum, [redacted] dated 15 December 1966 25X1

This memorandum sets forth the management planning entered into on the U-2R system and summarizes actions taken toward assuring effective system program execution.

MANAGEMENT POSITION:

The U-2R program will be founded largely on an in-being support posture during its system life cycle. Essentially, the character of the management task and the degree to which participating organizations exercise their assigned responsibilities remain unchanged through the successive phases of the cycle. This office, as System Project 25X1 Director (Reference [redacted] dated 15 December 1966), will assure integration of effort by the participating organizations in achieving system acquisition program goals approved by the Director, National Reconnaissance Office. The Director of Special Activities has been designated as System Project Officer. Prime responsibility for project management rests with the Deputy for Research and Development, OSA

CONFIGURATION MANAGEMENT:

Positive Configuration Management was identified earlier as a "must" for the U-2R program. To this end, a working Configuration Control Board (CCB), referred to in Attachment I as Requirements Review Board, consisting of representatives from participating organizations, was established in late 1966. In anticipation of formal D/NRO authorization, the CIA and DOD board members were vested with authority to represent and commit their respective commands on engineering

proposals brought before the Board. This same membership was provided guidance (Attachment I) on procedures and mechanisms for the introduction of configurations, systems, equipments and modification proposals into the U-2R program.

Briefly, these initial guidelines assigned specific Configuration Control responsibilities that remain consistent with the general development philosophy expressed in your memorandum (Reference [redacted] It bears reiterating that a "team" concept represent organizational capabilities and materiel resources, regardless of parent command, has been a pronounced characteristic of these working groups. 25X1

BASE-LINE CONFIGURATION:

Significant strides have been made in developing the U-2R aircraft base-line configuration. This is now well defined and is furnished for your review by the attachments to this memorandum.

a. U-2R Base-Line Configuration (Attachment II).

b. "Manufacturer's Model Specification, High Altitude Reconnaissance Airplane", Model U-2R, Report No. SP-1125, 28 November 1966, Lockheed Aircraft Corporation, Copy No. 7, (Attachment III).

c. Corollary Planning (Attachment IV).

/s/

CARL E. DUCKETT
Director, CIA Reconnaissance Programs

CONCURRENCE:

S

Director, Program D

Attachments:
I, II, III, IV

Signature Recommended:

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Director of Special Activities

D/M/OSA/PEconomy:let (26 January 1967)
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ATTACHMENT 1

MANAGEMENT OF U-2R PROGRAM DURING DEVELOPMENT STAGES

1. PURPOSE:

a. To establish procedures for control and management of the U-2R program during development and flight test.

b. To establish the procedures necessary to configure the U-2R aircraft to insure maximum effectiveness.

c. To establish coordination and control necessary for flight test.

d. To establish a security system within the current IDEALIST security system to apply during development and flight test phase of the U-2R program.

e. To establish procedures for the gradual inclusion of U-2R assets into operational configuration.

2. SCOPE: These procedures apply to:

a. Development of basic U-2R airframe, propulsion, and ancillary systems.

b. Flight test of the U-2R aircraft.

c. Configuration of basic airframe and systems to be employed therein.

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3. RESPONSIBILITIES: Responsibility for the U-2R Development Program rests in the U-2R Executive Committee for Development, chaired by the D/R&D/OSA (Project Manager) and comprised of a member from AFRDR-P, D/M/OSA, and D/OPS/OSA. (COMPT/OSA and SS/OSA will act as advisors to this Committee.) The responsibilities of the U-2R Executive Committee for Development include, but are not limited to the following:

   a. To provide a mechanism by which an effective control and management can be maintained in the U-2R Development Program.

   b. Provide a mechanism for participation in the U-2R Program Development by all authorized parties.

   c. To provide appropriate points of interface with the USAF/AFRDR-P in matters of U-2R development.

4. PROCEDURES: The U-2R Executive Committee for Development will:

   a. Establish a U-2R Requirements Review Board to review configuration, systems, equipments and modification proposals submitted during development and test phases of the U-2R program. This Board will be chaired by D/M/OSA and be comprised of member(s) from AFRDR-P, D/R&D/OSA, D/OPS, LAC, COMPT/OSA, SS/OSA and other components within or without the Agency such as OEL, ORD, OSI, etc., as required. The Board will possess authority to approve (or disapprove) configuration requirements which would not violate the integrity of the basic U-2R airframe, propulsion system and vehicle performance. The U-2R Executive Committee for Development will be kept advised of such

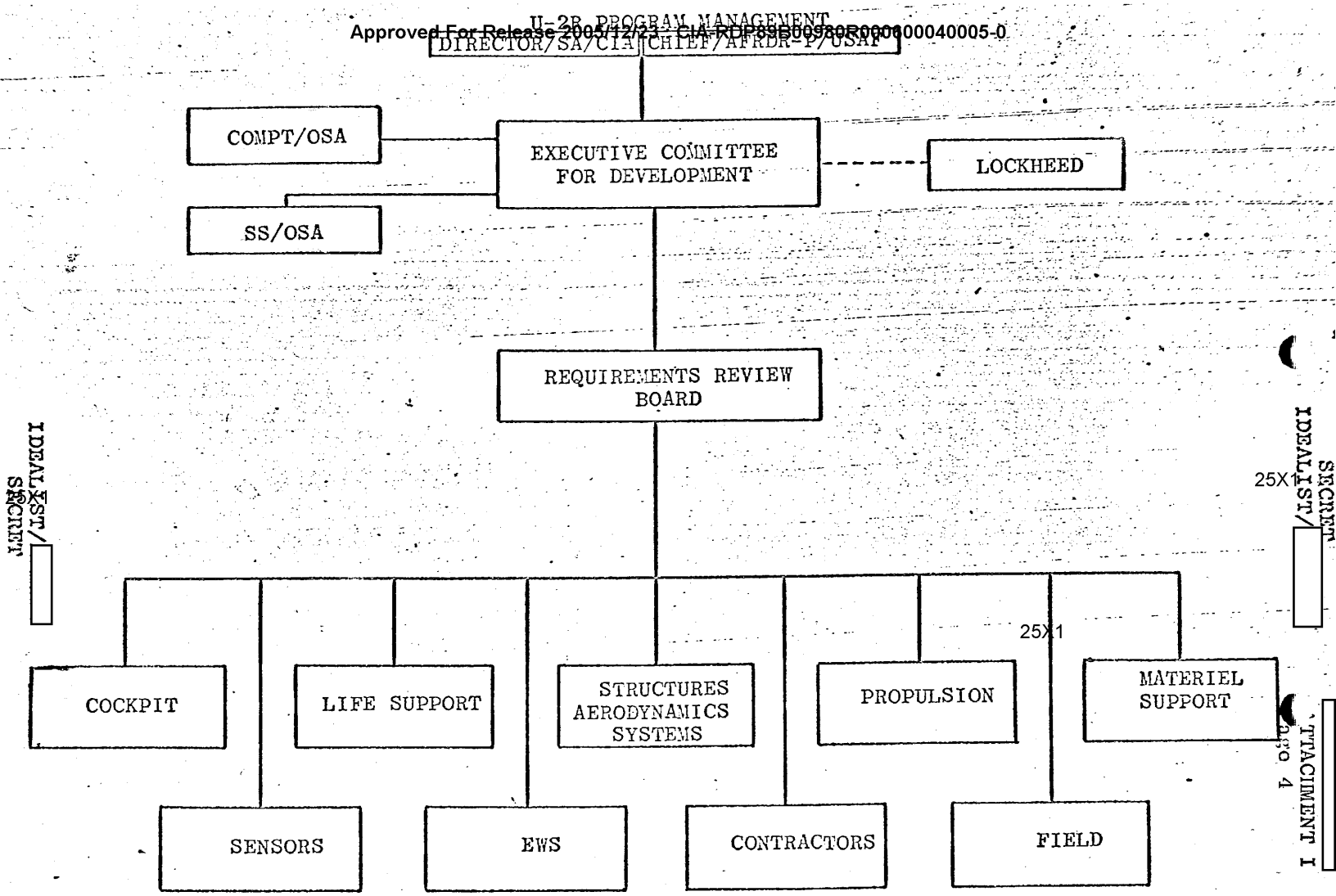
decisions on a current basis. In instances where major configurations or changes affecting vehicle performance become involved and are considered essential by its chairman, the Requirements Review Board will refer approval to the U-2R Executive Committee for Development.

b. The Requirements Review Board will establish working groups to review in a more narrow scope configurations, systems, equipments, etc., as they may apply to a particular working groups' specialized area, e.g., electronics, cockpits, fuselage, etc. The working groups would examine configuration proposals very closely and make recommendations to the Requirements Review Board for decision. A typical example of a working groups' composition is that established for the cockpit, chaired by SAS/D/OPS/OSA with members being Agency pilots, LAC representatives, D/R&D Life Support, and representatives AFRDR-P may nominate.

c. All proposals, modifications, procedures, etc., recommended by the Board will be submitted to the Director of Special Activities and Chief, AFRDR-P, for approval.

d. The U-2R Executive Committee for Development will establish and maintain a standard configuration control chart for the U-2R.

e. The U-2R Executive Committee for Development chairman will keep their principals advised, on a current basis, on progress during U-2R Development and Flight Test.



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ATTACHMENT II

U-2R

AIRCRAFT BASE-LINE CONFIGURATION

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INTRODUCTION

In arriving at a base-line configuration for the U-2R aircraft, the following considerations were uppermost:

- Establish an aircraft configuration fitted to ready operational employment by either the CIA or the DOD.
- Apply wealth of long-time U-2 fleet experience by operating commands and contractor associates to design, construction and support of the U-2R.
- Effect maximum utilization of on-shelf assets and that hardware common to the U-2C and U-2R models.
- Leave the door open for subsystems showing growth potential in technology.

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I. SCOPE AND CLASSIFICATION:

Service Model Designation	Reconnaissance
Designer	Lockheed
Model Designation	U-2R
Number/Places for Crew	One Pilot - Flight Station
Number/Type Engine	One Axial-Flow Turbo Jet Pratt & Whitney, Type J75P-13B

II. BASIC REFERENCES:

a. "Manufacturer's Model Specification, High Altitude Reconnaissance Airplane" Model U-2R, Report No. SP-1125, 28 November 1966, Lockheed Aircraft Corporation.

b. Minutes of Configuration Control Board (CCB) and Review Panel Meetings for the U-2R aircraft (as noted).

III. GENERAL DESCRIPTION AND COMPONENTS:

PROPULSION:

Pratt and Whitney Turbo-Jet Engine, Type J-75P-13B (1)

(Ref: LAC Report No. SP-1125, 28 November 1966)

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(Ref: Minutes, U-2R Mock-Up Review, 29-30 November 1966 and Minutes, Comm/Nav Working Group, 10 November 1966).

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III. GENERAL DESCRIPTION AND COMPONENTS: (cont'd)

NAVIGATION:

ARN-59	-	ADF
ARN-52	-	TACAN and ILS
APN-153/ASN-66	-	Navigation System with provisions for pilot readout of drift and ground speed.

Provisions to accept present flight reference system plus self-contained standby attitude indicator.

(Ref: Minutes, U-2R Mock-Up Review, 29-30 November 1966 and Minutes, Comm/Nav Working Group, 10 November 1966)

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III. GENERAL DESCRIPTION AND COMPONENTS: (cont'd)

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SENSOR EQUIPMENT:

B or B-2 Camera

Delta III Camera

FFD-3 Camera

"H" Camera

T-70 or T-35 Tracker Camera

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U. S. Mule (leaflet dropping, hatch capability)

Drift Sight (first 4 aircraft to use present drift sight fitted to U-2R. Follow-on aircraft with day-and-night drift sight (DANS) with attitude/EWS display feature).

Future Considerations:

- Delta IV Camera
- FFD-10 or FFD-20
- Nose mounted D objective camera
- 25X1 [redacted]

(Ref: Minutes, U-2R Mock-Up Review, 29-30 November 1966 and Minutes, U-2R Requirements Review Board Meeting, 20 October 1966)

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III. GENERAL DESCRIPTION AND COMPONENTS: (cont'd)

COCKPIT CONFIGURATION:

On 29 and 30 November 1966, six U-2 pilots (Edwards Air Force Base, Davis-Monthan Air Force Base and Lockheed Assignees) performed individual evaluation of the Lockheed U-2R cockpit mock-up.

Each pilot, after donning the full pressure suit, was permitted 30 to 45 minutes (including approximately 10 minutes with the suit pressurized) in the cockpit. Each individual evaluated readability of instruments, ready access to controls, mobility within the cockpit (with the pressure suit inflated or deflated) and ejection sequence clearance with suit inflated. These evaluations were followed by group discussion and critique.

Deficiencies found in the cockpit arrangement were presented to Lockheed U-2R engineers for corrective actions.

Subsequent cockpit review by these same pilots were performed on individual placement and location of switches, controls and instruments. Their recommendations permitted a design "freeze" of the cockpit and will be reflected in the basic aircraft configuration.

(Ref: Minutes, U-2R Cockpit Configuration Panel Meeting, 29-30 November 1966)

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III. GENERAL DESCRIPTION AND COMPONENTS: (cont'd)

LIFE SUPPORT:

Discussions on Pilot's Protective Assemblies (PPA's) led to selection of a full pressure suit for pilot employment in the U-2R aircraft. The full pressure suit being considered is a modification of the suit developed for USAF's SR-71. The modifications being made will configure this system to satisfy the crew member protection and comfort requirements imposed by the specific performance envelope of the U-2R. Because the hardware items on this proposed system are standard USAF equipment, the required AGE for supporting this system will require no developmental efforts. The proposed pressure suit system is also compatible with the ejection seat to be provided in the U-2R, since it is the same seat used in the SR-71. The ejection seat provides for safe recovery from ground level and zero airspeed through the entire altitude and speed envelope of the U-2R. The personal parachute and seat kit required to complete this system should also be the same as those used in the SR-71 although the manufacturer's model specification (Attachment III) does not include these two items. Consideration for funding for these later two items must be made if they are not contained in the basic aircraft contract.

(Ref: Minutes, U-2R Mock-Up Review, 29-30 November 1966)

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ATTACHMENT IV

U-2R

COROLLARY PLANNING

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LOGISTICS:

Review has been performed of a major assembly spares list developed by Lockheed. The list reflects items or major units with interchangeable or replaceable characteristics and which can be replaced in the field. Examples of these items are tires, wing tips, canopy glass, windshield assemblies, etc. The quantities recommended therein were factored on an austere basis against the minimum number of aircraft to be procured initially.

Reviews have also been made of mission equipment requirements using a proposed "Basic Article Configuration" as a planning base line. GFAE and GFP needs were studied and long lead time items identified.

Lockheed and the Project Support Depot [redacted] 25X1 25X1 [redacted] are exchanging supply data and lists of assets available for U-2R utilization. The basic premise is to use existing assets to the extent possible and restrict new procurement to the minimum.

Lockheed and the Project Support Depot are jointly reviewing aerospace ground equipment (AGE) that: (1) can be utilized in its present configuration on the U-2R program or (2) could be modified economically in meeting these requirements.

(Ref: Minutes, U-2R Mock-Up Review, 29-30 November 1966)

FACILITIES:

Considerable planning has gone into the requirements and facilities for the U-2R Flight Test program at Edwards Air Force Base (North Base). Major topics considered have been:

- Modifications to present buildings and shelters
- Additional construction needs
- Support to be provided by the Project Detachment to Lockheed.
- Storage and warehousing edifices
- Utilization of transportable or "pre-fab" structures (i.e., Butler Type)
- Security fencing extensions
- Paving of ramp and apron
- Housing for personal equipment support area (life support) and instrument lab.
- Expanded communications needs

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